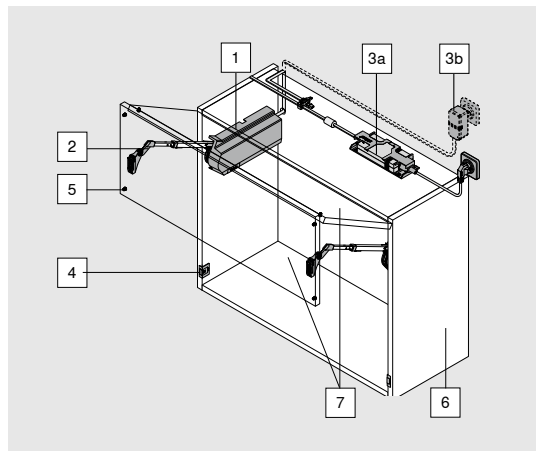


## SERVO-DRIVE for AVENTOS/SERVO-DRIVE uno for AVENTOS

SERVO-DRIVE for AVENTOS supports the opening and closing of lift systems in furniture.

### Reference diagram

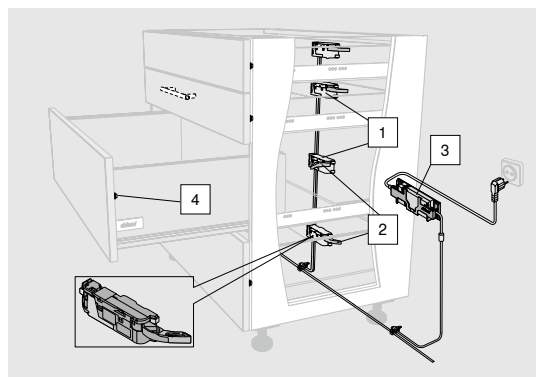


- 1 Lift mechanism, drive unit and cover cap
- 2 Lever arm
- 3a SERVO-DRIVE transformer
- 3b SERVO-DRIVE plug-in transformer
- 4 SERVO-DRIVE switch
- 5 Blum distance bumper
- 6 Cabinet
- 7 Front/Lift system

## SERVO-DRIVE for LEGRABOX/TANDEMBOX/MOVENTO/TANDEM

SERVO-DRIVE supports the opening of drawers.

### Reference diagram



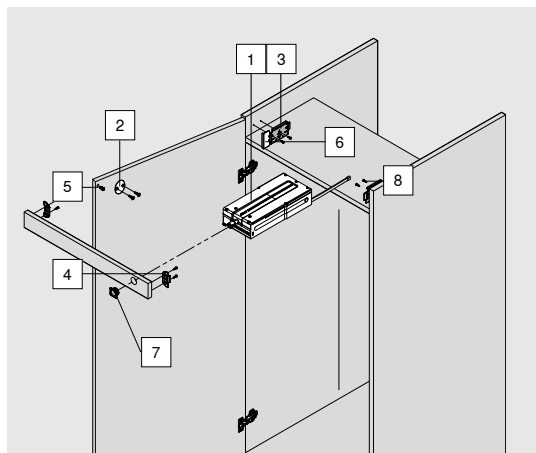
- 1 Drive unit
- 2 Eject lever
- 3 SERVO-DRIVE transformer
- 4 Blum distance bumper



## SERVO-DRIVE flex for refrigerators and freezers

SERVO-DRIVE flex allows handle-less refrigerators and freezers to be opened electromechanically by pressing the front.

### Orientation diagram

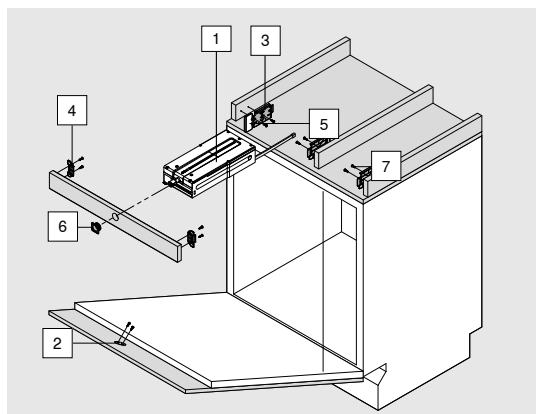


- 1 Drive unit
- 2 Catch plate
- 3 Mounting plate
- 4 Front fixing
- 5 Blum distance bumper
- 6 Assembly jig
- 7 Front cover
- 8 Chipboard screws

## SERVO-DRIVE flex for dishwashers

SERVO-DRIVE flex allows handle-less dishwashers to be opened electromechanically by pressing the front.

### Orientation diagram



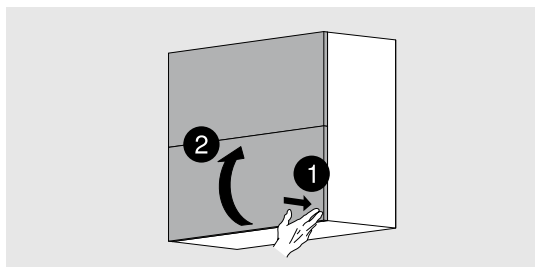
- 1 Drive unit
- 2 Catch plate
- 3 Mounting plate
- 4 Front fixing
- 5 Assembly jig
- 6 Front cover
- 7 Chipboard screws



## SERVO-DRIVE for AVENTOS/SERVO-DRIVE uno for AVENTOS

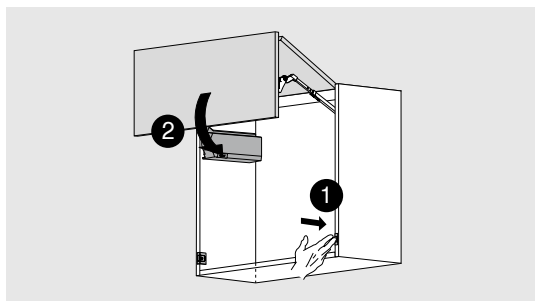
### Electrical motion support system

The SERVO-DRIVE switch triggers the automatic opening and closing action of SERVO-DRIVE for AVENTOS.



Press on the front

- The lift system opens automatically



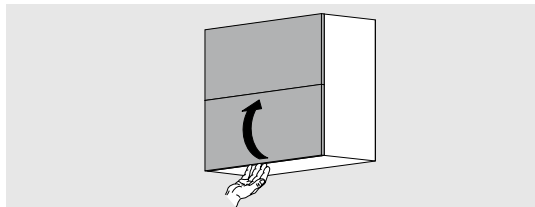
Press on the SERVO-DRIVE switch

- The lift system closes automatically

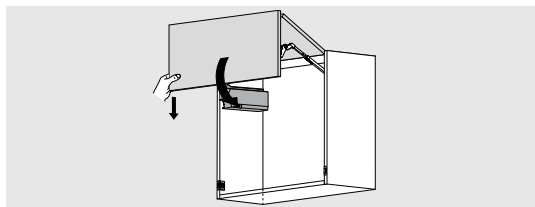


## Manual operation

The lift system can be opened or closed manually at any time without damaging SERVO-DRIVE for AVENTOS.

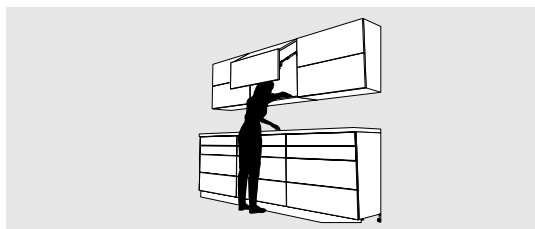


- Manual opening of the lift system by moving it upwards



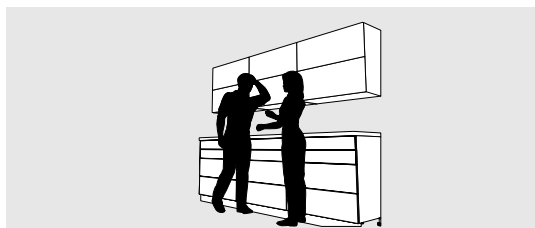
- Manual closing of the lift system by moving it downwards

## Collision detection



The opening and closing action is interrupted automatically via the integrated collision detection feature when the front hits a body part or other object.

## Lean protection feature



SERVO-DRIVE for AVENTOS is only triggered by a brief touch. Leaning on the lift system will not open it.



## Power failure

If the power supply is interrupted during the opening or closing process, the SERVO-DRIVE for AVENTOS lift system will remain in that position. The front can be closed manually, or when power is restored; simply touch the switch to re-activate SERVO-DRIVE function.

The following parameters must be observed to ensure the error-free functioning of SERVO-DRIVE for AVENTOS:

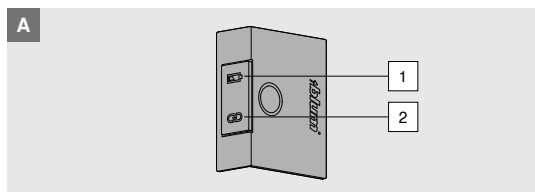
- Blum distance bumpers must be attached to the front to maintain the required distance between the lift system and the cabinet.
- No items should be placed between the front and the cabinet.

## NOTE

- Improper use may cause SERVO-DRIVE for AVENTOS to wear prematurely!
- Do not press or pull with force against the movement direction when opening or closing the lift system.
- Never remove the front. Front removal may only be carried out by qualified personnel. See also the safety section at the first pages of this leaflet.

## SERVO-DRIVE switch

The SERVO-DRIVE switch is battery-operated (CR2032). Only use batteries from reputable manufacturers.

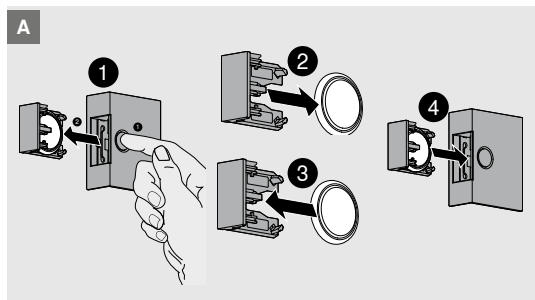


- 1 Battery display (LED)
- 2 Connect (LED)



## Replacing the battery

When the battery power begins to weaken, the battery display (LED) will begin to flash red.



- ❶ Open the SERVO-DRIVE switch and remove the battery holder
- ❷ Remove the battery
- ❸ Insert new battery (type CR2032), observing the correct pole connections
- ❹ Close battery holder

If the battery is inserted incorrectly, the SERVO-DRIVE switch battery display will light up red.

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### NOTE

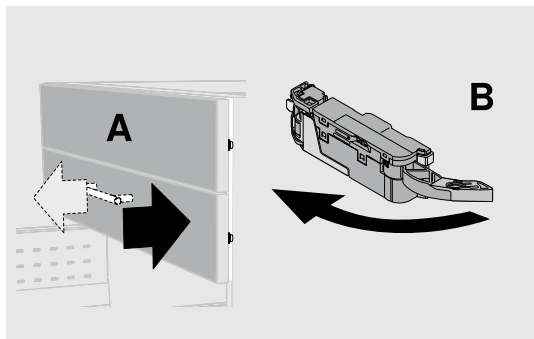
The SERVO-DRIVE switch battery must not be recharged or discarded into fire.

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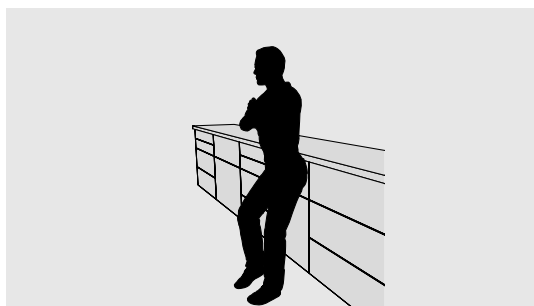
## SERVO-DRIVE for LEGRABOX/TANDEMBOX/MOVENTO/TANDEM

### Electrical motion support system



When the front and/or handle of the drawer (A) is pulled or pressed, the eject lever of the drive unit (B) swivels forward and opens the pull-out unit a short distance.

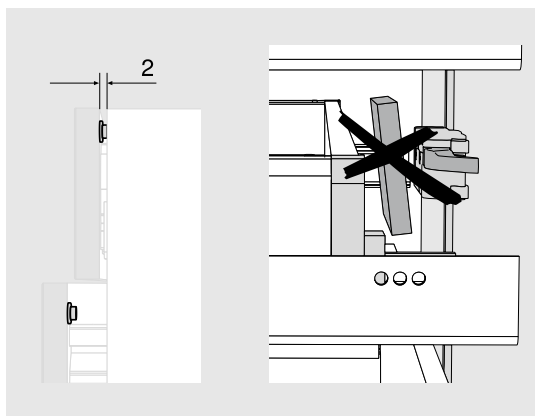
### Lean protection feature



The electrical opening support function is only triggered by a brief touch or pull. Leaning on the pull-out unit, for example, will not open it.



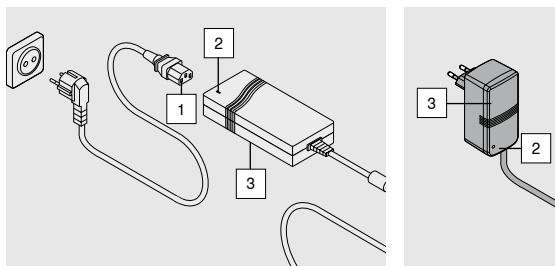
The following parameters must be observed to ensure the error-free functioning of SERVO-DRIVE:



- Blum distance bumpers must be attached to the front to ensure the required triggering signal (2 mm) between the pull-out unit and the cabinet.
- No items can be clamped between the pull-out unit and the cabinet back and/or SERVO-DRIVE.

## SERVO-DRIVE transformers

SERVO-DRIVE transformers provide power to the drive unit. SERVO-DRIVE transformer function can be checked via the operating mode indicator (LED).



- 1 Power connection
- 2 Operating mode display (LED) Serial tag
- 3

## NOTE

- Improper use may cause SERVO-DRIVE for pull-out systems to wear prematurely!
- Do not press or pull with force against the movement direction when opening or closing the drawer.

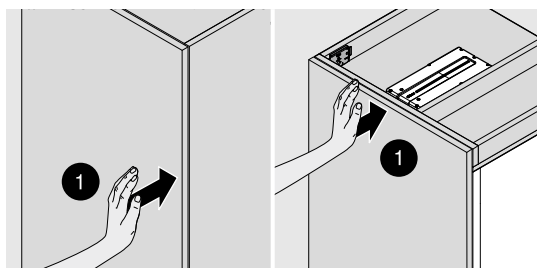




## SERVO-DRIVE flex

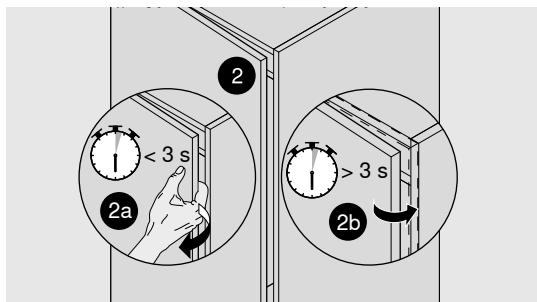
### Electrical motion support system

Pressing the handle-less front will trigger the electromechanical opening of SERVO-DRIVE flex.



1) Press (do not pull) the front

- The door (refrigerator or dishwasher) will open slightly for 2.5 sec

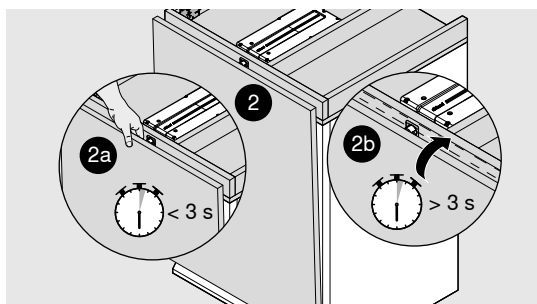


2) User utilises opening to grip door

- Continues opening process

2b) User does not touch door

- Door closes again





## Problems

## Possible cause

## Remedy

Battery display on SERVO-DRIVE switch flashes red.	SERVO-DRIVE switch battery is losing power.	➤ Replace the battery.
Battery display lights up red	Battery has been inserted incorrectly.	➤ Insert the battery correctly.
SERVO-DRIVE for AVENTOS does not open or close completely.	The front is not balanced or does not lie flat on the cabinet evenly.	➤ Contact your distributor's customer service to readjust the front.
SERVO-DRIVE for AVENTOS does not work on one particular lift system when pressing on the front or using the SERVO-DRIVE switch.	SERVO-DRIVE switch battery has run out of power.	➤ Replace the battery.
	Battery was inserted incorrectly.	➤ Insert the battery correctly.
	SERVO-DRIVE switch is defective.	➤ Contact your distributor's customer service to replace the SERVO-DRIVE switch.
	Drive unit is defective.	➤ Contact your distributor's customer service to replace the drive unit.
	Cabling is defective.	➤ Contact your dealer's customer service to correct the problem.
SERVO-DRIVE for AVENTOS does not close completely.	An object is between the lift system and cabinet or jammed between the lever and front.	➤ Remove the obstruction.
	An object juts out over the front edge of the cabinet.	➤ Remove the obstruction.
[OK] button of drive unit lights up red continuously.	Drive unit is defective.	➤ Replace drive unit.



Problems	Possible cause	Solution
The balance misadjustment indicator lights up.	Front is not balanced.	➤ Adjust the balance on the lift mechanism.
The BLUMOTION adjustment indicator lights up.	BLUMOTION adjustment is incorrect.	➤ Change the BLUMOTION adjustment on the lift mechanism.



## Problems

## Possible cause

## Solution

SERVO-DRIVE for LEGRABOX/TANDEMBOX/MOVENTO/TANDEM will not work on any drawers when pushing or pulling.

SERVO-DRIVE transformer is not connected to the outlet.

- Plug in the SERVO-DRIVE transformer to the outlet.

The power supply has been interrupted

- Check the circuit breaker/fuse box.
- If necessary, contact an authorised electrician.

SERVO-DRIVE transformer is defective.

- If necessary, have the distributor's customer service replace the SERVO-DRIVE transformer.

SERVO-DRIVE for LEGRABOX/TANDEMBOX/MOVENTO/TANDEM will not work for an entire cabinet when pushing or pulling.

Cabling is defective.

- Contact your distributor's customer service to correct the problem.

SERVO-DRIVE for LEGRABOX/TANDEMBOX/MOVENTO/TANDEM will only work when drawer is pulled – not by pushing.

Object is obstructing path.

- Remove the obstruction.

Blum distance bumper was removed or is defective.

- Contact your distributor's customer service to replace the Blum distance bumper.

SERVO-DRIVE for LEGRABOX/TANDEMBOX/MOVENTO/TANDEM does not work for an individual pull-out – neither pulling nor pushing.

Max. fill height of drawer has been exceeded.

- Open the drawer manually.
- Remove the items that are too high from the pull-out.

SERVO-DRIVE is defective.

- Contact your distributor's customer service to replace the drive unit.



## Problems

The refrigerator door does not open

## Possible cause

If the door of the device is left open for a relatively long time, for example when putting away shopping, a vacuum may be created inside the refrigerator or freezer after it has been closed. This may result in it not being possible to open the door of the device for a few seconds.

## Remedy

- Wait for the pressure to neutralise (this may take up to 20 sec)

SERVO-DRIVE flex for refrigerators, freezers and dishwashers:

- Unit does not respond to activation
- Unit responds slowly to activation
- Unit does not open fully

Mounting plate has been installed too far back

- Check position using assembly template
- Ensure dimensions correspond to assembly instructions

Blum distance bumper pad not inserted or positioned incorrectly

- Install Blum distance bumper pad
- Correct positioning

Front gap too small  
Front gap too large

- Adjust front gap to 2.5–3 mm (in accordance with instructions for white goods)

Trigger fails to initiate movement across entire front height

- Wireless switches are recommended

Incorrect drilling cover (blocked rod)

- Drill a new front

Refrigerator assembly stops have not been removed

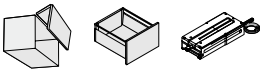
- Remove in accordance with white goods instructions

The reference run has not been carried out correctly (e.g. due to manual interference during the reference run).

- Reset system, begin a new reference run



Problems	Possible cause	Remedy
Door does not close	Catch plate is not installed	➤ Install catch plate
	Catch plate is positioned incorrectly	➤ Reposition the catch plate
Dishwasher does not close completely	Dishwasher locking mechanism has become stiff (depending on model)	➤ Push front until it closes (this is NOT a product defect)



## Technical data

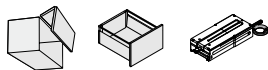
The appliances must only be used in dry, closed rooms. All SERVO-DRIVE appliances are of protection class III and must only be supplied with safety extra-low voltage (SELV). They are only to be used with the transformers provided by Blum.

### SERVO-DRIVE transformer Z10NE030

Input voltage:	100–240 V AC / 50–60 Hz
Input current:	0.6 A
Output voltage:	24.0 V DC
Output current:	1.0 A
Output power:	24.0 W
Average active efficiency:	86.8 %
Efficiency at low load (10%):	84.0 %
No-load power consumption:	≤ 0.08 W
Ambient conditions:	
Transport / Storage:	-30 to +70 °C / 0 to 90 % r.H.
Operation:	0 to +40 °C / 5 to 80 % r.H. non condensing
Maximum altitude:	2000 m (at an ambient temperature of 25 °C)
Protection category:	IP40

### SERVO-DRIVE transformer Z10NE040

Input voltage:	100–240 V AC / 50–60 Hz
Input current:	2.5 A
Output voltage:	24.0 V DC
Output current:	3.0 A
Output power:	72.0 W
Average active efficiency:	≥ 88.0 %
Efficiency at low load (10%):	≥ 80.0 %
No-load power consumption:	≤ 0.15 W
Ambient conditions:	
Transport / Storage:	-30 to +70 °C / 0 to 90 % r.H.
Operation:	0 to +40 °C / 5 to 80 % r.H. non condensing
Maximum altitude:	4000 m (at an ambient temperature of 25 °C)
Protection category:	IP40

**SERVO-DRIVE plug-in transformer Z10NA300**

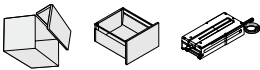
Input voltage: .....	100–240 V AC / 50–60 Hz
Input current: .....	0.3 A
Output voltage: .....	24.0 V DC
Output current: .....	0.5 A
Output power: .....	12.0 W
Average active efficiency: .....	83.3 %
Efficiency at low load (10%): .....	78.0 %
No-load power consumption: .....	≤ 0.08 W
Ambient conditions:	
Transport / Storage: .....	-30 to +70 °C / 0 to 90 % r.H.
Operation: .....	0 to +40 °C / 5 to 80 % r.H. non condensing
Maximum altitude: .....	2000 m (at an ambient temperature of 25 °C)
Protection category: .....	IP44

**SERVO-DRIVE plug-in transformer Z10NA40x\***

Input voltage: .....	100–240 V AC / 50–60 Hz
Input current: .....	2.0 A
Output voltage: .....	24.0 V DC
Output current: .....	1.0 A
Output power: .....	24.0 W
Average active efficiency: .....	≥ 86.4 %
Efficiency at low load (10%): .....	≥ 77.0 %
No-load power consumption: .....	≤ 0.10 W
Ambient conditions:	
Transport / Storage: .....	-30 to +70 °C / 0 to 90 % r.H.
Operation: .....	0 to +40 °C / 5 to 80 % r.H. non condensing
Maximum altitude: .....	4000 m (at an ambient temperature of 25 °C)
Protection category: .....	IP44

\* x = B, E, H, K, N, R, S, U, Z



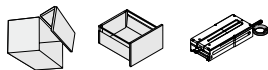


SERVO-DRIVE drive unit for AVENTOS 21FA001, 21SA001, 21LA001, 21KA001

Supply voltage:	24.0 V DC
Rated current:	2.0 A
Power consumption in standby mode:	≤ 0.55 W (front closed)
Operating mode:	S3 5 % (max. 10 motions/10 min.)
Emission sound pressure level:	< 70 dB(A)
Ambient conditions:	
Transport / Storage:	-30 to +70 °C / 0 to 90 % r.H.
Operation:	0 to +40 °C / 5 to 80 % r.H. non condensing
Maximum altitude:	2000 m (at an ambient temperature of 25 °C)
Protection category:	IP20
Radio equipment:	
Frequency band:	2.404 to 2.452 GHz
Maximum radio-frequency power:	+4 dBm / 2.5 mW
Range:	typically 10 m (depending on material and contents)
Transmission method:	bidirectional, via a coded wire

SERVO-DRIVE drive unit for AVENTOS top 23.A001, 23KA001

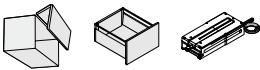
Supply voltage:	24.0 V DC
Rated current:	2.0 A
Power consumption in standby mode (23.A001):	≤ 0.15 W (front closed)
Power consumption in standby mode (23KA001):	≤ 0.40 W (front closed)
Operating mode:	S3 5 % (max. 10 motions/10 min.)
Emission sound pressure level:	< 70 dB(A)
Ambient conditions:	
Transport / Storage:	-30 to +70 °C / 0 to 90 % r.H.
Operation:	0 to +40 °C / 5 to 80 % r.H. non condensing
Maximum altitude:	4000 m (at an ambient temperature of 25 °C)
Protection category:	IP20
Radio equipment:	
Frequency band:	2.404 to 2.452 GHz
Maximum radio-frequency power:	+4 dBm / 2.5 mW
Range:	typically 10 m (depending on material and contents)
Transmission method:	bidirectional, via a coded wire

**SERVO-DRIVE drive unit for LEGRABOX/TANDEMBOX/MOVENTO/TANDEM Z10A3000.03,  
Z10A3000.50**

Supply voltage: ..... 24.0 V DC  
Rated current: ..... 2.0 A  
Power consumption in standby mode: .....  $\leq 0.15$  W (front closed)  
Operating mode: ..... S3 5 % (max. 10 motions/10 min.)  
Emission sound pressure level: .....  $< 70$  dB(A)  
Ambient conditions:  
    Transport / Storage: .....  $-30$  to  $+70$  °C / 0 to 90 % r.H.  
    Operation: ..... 0 to  $+40$  °C / 5 to 80 % r.H. non condensing  
    Maximum altitude: ..... 2000 m (at an ambient temperature of 25 °C)  
Protection category: ..... IP20

**SERVO-DRIVE flex drive unit Z10C5000**

Supply voltage: ..... 24.0 V DC  
Rated current: ..... 2.0 A  
Power consumption in standby mode: .....  $\leq 0.15$  W (front closed)  
Power consumption in standby mode (with wireless receiver): .....  $\leq 0.35$  W (front closed)  
Operating mode: ..... S3 5 % (max. 10 motions/10 min.)  
Emission sound pressure level: .....  $< 70$  dB(A)  
Ambient conditions:  
    Transport / Storage: .....  $-30$  to  $+70$  °C / 0 to 90 % r.H.  
    Operation: ..... 0 to  $+40$  °C / 5 to 80 % r.H. non condensing  
    Maximum altitude: ..... 2000 m (at an ambient temperature of 25 °C)  
Protection category: ..... IP20  
Radio equipment (with wireless receiver):  
    Frequency band: ..... 2.404 to 2.452 GHz  
    Maximum radio-frequency power: ..... +4 dBm / 2.5 mW  
    Range: ..... typically 10 m (depending on material and contents)  
    Transmission method: ..... bidirectional, via a coded wire

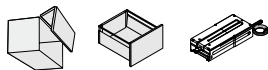


**SERVO-DRIVE switch 23P5020**

Supply voltage:	3.0 V Lithium button cell CR2032
Rated current:	10 mA
Power consumption in standby mode:	≤ 1 µW
Ambient conditions:	
Transport / Storage:	-30 to +70 °C / 0 to 90 % r.H.
Operation:	0 to +40 °C / 5 to 80 % r.H. non condensing
Maximum altitude:	4000 m (at an ambient temperature of 25 °C)
Protection category:	IP20
Radio equipment:	
Frequency band:	2.404 to 2.452 GHz
Maximum radio-frequency power:	+4 dBm / 2.5 mW
Range:	typically 10 m (depending on material and contents)
Transmission method:	bidirectional, via a coded wire

**Wireless receiver Z10C5007**

Supply voltage:	24.0 V DC
Rated current:	10 mA
Power consumption in standby mode:	≤ 0.20 W
Ambient conditions:	
Transport / Storage:	-30 to +70 °C / 0 to 90 % r.H.
Operation:	0 to +40 °C / 5 to 80 % r.H. non condensing
Maximum altitude:	2000 m (at an ambient temperature of 25 °C)
Protection category:	IP20
Radio equipment:	
Frequency band:	2.404 to 2.452 GHz
Maximum radio-frequency power:	+4 dBm / 2.5 mW
Range:	typically 10 m (depending on material and contents)
Transmission method:	bidirectional, via a coded wire

**Quake sensor Z10ZE000**

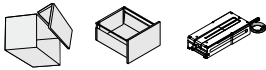
Supply voltage: ..... 24.0 V DC  
Rated current: ..... 25 mA  
Power consumption in standby mode: .....  $\leq 0.20$  W  
Switching current: .....  $\leq 10.0$  A  
Switching threshold: .....  $0.2 \text{ m/s}^2 \approx 0.02 \text{ g}$   
Ambient conditions:  
Transport / Storage: .....  $-30$  to  $+70$  °C /  $0$  to  $90$  % r.H.  
Operation: .....  $0$  to  $+40$  °C /  $5$  to  $80$  % r.H. non condensing  
Maximum altitude: ..... 2000 m (at an ambient temperature of  $25$  °C)  
Protection category: ..... IP20

**COMBOX Z10ZC000**

Supply voltage: ..... 24.0 V DC  
Rated current: ..... 10 mA  
Power consumption in standby mode: .....  $\leq 0.10$  W  
Ambient conditions:  
Transport / Storage: .....  $-30$  to  $+70$  °C /  $0$  to  $90$  % r.H.  
Operation: .....  $0$  to  $+40$  °C /  $5$  to  $80$  % r.H. non condensing  
Maximum altitude: ..... 2000 m (at an ambient temperature of  $25$  °C)  
Protection category: ..... IP20

**Connecting nodes Z10V1000.01, Z10V100E.01**

Rated voltage: ..... 24.0 V DC  
Rated current: ..... 10.0 A  
Ambient conditions:  
Transport / Storage: .....  $-30$  to  $+70$  °C /  $0$  to  $90$  % r.H.  
Operation: .....  $0$  to  $+40$  °C /  $5$  to  $80$  % r.H. non condensing  
Maximum altitude: ..... 4000 m (at an ambient temperature of  $25$  °C)



## Simplified EU declaration of conformity

Julius Blum GmbH hereby declares that all electrical and electronic article types of Julius Blum GmbH conform to Directive 2011/65/EU.

Julius Blum GmbH hereby declares that the machine types Z10A3000 and Z10C5000 conform to the Directive 2006/42/EC and Directive 2014/30/EU.

Julius Blum GmbH hereby declares that the machine types 23.A001, 23KA001, 21FA001, 21LA001, 21SA001 and 21KA001 conform to the Directive 2006/42/EC and Directive 2014/53/EU.

Julius Blum GmbH hereby declares that the radio equipment types 23P5020 and Z10C5007 conform to the Directive 2014/53/EU.

Julius Blum GmbH hereby declares that the electrical and electronic article types Z10ZE000 and Z10ZC000 conform to the Directive 2014/30/EU.

Julius Blum GmbH hereby declares that the Blum transformer types Z10NA300, Z10NA40x\*, Z10NE030 and Z10NE040 conform to the directive 2014/35/EU and Directive 2014/30/EU.

The complete text of the EU declaration of conformity is available at the following Internet address:  
**[www.blum.com/compliance](http://www.blum.com/compliance)**

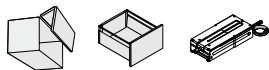
**Supplier's Declaration of Conformity**  
**47 CFR § 2.1077 Compliance Information**

**Unique Identifier**  
Product-Family: SERVO-DRIVE  
Product-Types: 23xA00y | x ∈ {., K} ∧ y ∈ {0, 1}, 23.A00L83  
21xA00y | x ∈ {F, L, S, K} ∧ y ∈ {0, 1}, Z10C5007  
Z10A3000, Z10C5000  
23P5020 with PCB 23P502L00 or PCB 23P502L00.01  
Z10NA40x | x ∈ {B, E, H, K, N, R, S, U, Z}, Z10NA300  
Z10NE040, Z10NE030

**Responsible Party-U.S. Contact Information**  
Blum Inc.  
7733 Old Plank Rd.  
Stanley, North Carolina  
28164  
  
Mr. Christopher Muck  
Email: [chris.muck@blum.com](mailto:chris.muck@blum.com)

**FCC Compliance Statement**  
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

\* x = B, E, H, K, N, R, S, U, Z



### Spare parts form

Name of kitchen distributor/cabinet maker: \_\_\_\_\_

Address: \_\_\_\_\_

**In order to receive your SERVO-DRIVE spare parts as quickly as possible, your SERVO-DRIVE and/or kitchen distributor requires the following data:**

Name of kitchen owner: \_\_\_\_\_

Address: \_\_\_\_\_

Commission number: \_\_\_\_\_

Fault description: \_\_\_\_\_

### Part number and batch number of the defective SERVO-DRIVE component:

	Part number	Batch number	Quantity
Blum transformer:	Z10NE _____	_____	_____
Blum plug-in transformer:	Z10NA _____	_____	_____
Drive unit:	Z10 _____	BAU _____	_____
Drive unit:	21 _____	BAU _____	_____
Drive unit:	23 _____	BAU _____	_____
SERVO-DRIVE switch:	21   23 _____	BAU _____	_____
Wireless receiver:	Z10C5007 _____	BAU _____	_____



The part number and the batch number can be found here

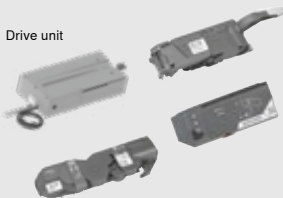
Blum transformer



Blum plug-in transformer



Drive unit



SERVO-DRIVE switch

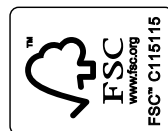


Wireless receiver



Blum partners worldwide can be found at:  
[www.blum.com/addresses](http://www.blum.com/addresses)

Look for our  
FSC™-certified  
products



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Our site in the USA is certified to ISO 9001.  
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System



**ISO 14001**  
Certified Environmental  
System



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System

